

IN THE CLAIMS:

Claims 1-5 (Canceled).

1 6. (Amended) ~~The catalyst of claim 1~~ A catalyst system comprising:
2 a complex with the formula:
3 $[ML_y(HSR)_{\tilde{n}}]^{n-}$
4 wherein M is a transition metal cation;
5 L is a ligand;
6 y is a whole number between 0 and 5;
7 \tilde{n} is a whole number between 1 and 6;
8 n is the charge of the complex;
9 H is Hydrogen;
10 S is sulphur; and
11 R is any organic group or hydrogen, wherein L is selected from the group con-
12 sisting of cyano, amino, aquo, hydroxo, thiocyanato, trifluoroborato, phosphino, nitro,
13 nitrato, and carboxo.

1 7. (Amended) ~~The catalyst of claim 1~~ A catalyst system comprising:
2 a complex with the formula:
3 $[ML_y(HSR)_{\tilde{n}}]^{n-}$
4 wherein M is a transition metal cation;
5 L is a ligand;
6 y is a whole number between 0 and 5;
7 \tilde{n} is a whole number between 1 and 6;

8 n is the charge of the complex;

9 H is Hydrogen;

10 S is sulphur; and

11 R is any organic group or hydrogen, wherein -L is a chelating agent selected from
12 the group consisting of dimethylglyoxime, phenanthroline, and ethylenediamine.

1 Claims 8-22 (Previously Canceled without prejudice)

1 23. (New) The system of claim 6, wherein the transition metal is selected from the
2 group consisting of cobalt, manganese, chromium and iron.

1 24. (New) The system of claim 7, wherein the transition metal is selected from the
2 group consisting of cobalt, manganese, chromium and iron.

1 25. (New) The system of claim 6, wherein M is selected from the group consisting of
2 Co^{2+} , Mn^{2+} , Fe^{2+} , and Cr^{3+} .

1 26. (New) The system of claim 7, wherein M is selected from the group consisting of
2 Co^{2+} , Mn^{2+} , Fe^{2+} , and Cr^{3+} .